

## CLAIMS

1. A method of systematically diagnosing data problems in a database,  
comprising the steps of:

identifying a set of tests to be performed on the database;

5 preparing a test program corresponding to the set of tests using SQL  
(Structured Query Language);

executing the test program on the database so that the set of tests are  
performed on the database simultaneously; and

automatically providing results of the test program in a predetermined format,  
whereby data problems in the data base can be diagnosed by viewing the results.

2. The method of claim 1, wherein the predetermined format is a table format.

3. The method of claim 1, wherein the preparing step is implemented using WITH  
and OUTER JOIN commands of the SQL.

15 4. The method of claim 1, wherein at least one of the set of tests involves  
performing a test on a particular record stored in a table of the database, said record  
being identifiable by one or a combination of key values.

5. The method of claim 1, wherein, in the preparing step, the test program is  
prepared manually.

6. The method of claim 1, wherein, in the preparing step, the test program is prepared by computer software.

7. The method of claim 1, wherein the preparing step includes:

displaying a set of predetermined queries to a user;

receiving the user's response to each of the predetermined queries; and

preparing the test program based on the user's response.

8. A system for systematically diagnosing data problems in a database, comprising:

a database including a plurality of tables, each table containing at least one row of data, each row identifiable by one or a combination of key values; and

a testing module, coupled to the database, for storing a test program written in SQL (Structured Query Language), executing the test program on the database, and automatically providing results of the test program in a predetermined format, wherein the test program corresponds to a collection of tests for diagnosing data problems in the database.

9. The system of claim 8, wherein the predetermined format is a table format.

10. The system of claim 8, wherein the test program includes WITH and OUTER JOIN commands of the SQL.

11. The system of claim 10, wherein each of the collection of tests is represented by a query, and these queries are combined as a larger query using the WITH and OUTER JOIN commands.

12. The system of claim 8, wherein one of the collection of tests involves performing  
5 a test on a particular record stored in a table of the database, said record being identifiable by one or a combination of key values.

13. The system of claim 8, wherein the test program stored in the testing module is prepared manually.

14. The system of claim 8, wherein the test program stored in the testing module is prepared by computer software.

15. The system of claim 8, further comprising:  
an interface for displaying a set of predetermined queries to a user and receiving the user's response to each of the predetermined queries,  
wherein the test module prepares the test program based on the user's  
15 response.

16. A computer program product embodied on computer readable media readable by a computing device, for systematically diagnosing data problems in a database, the product comprising computer executable instructions for:

identifying a set of tests to be performed on the database;

preparing a test program corresponding to the set of tests using SQL (structured query language);

executing the test program on the database so that the set of tests are performed  
5 on the database simultaneously; and

automatically providing results of the test program in a predetermined format,  
whereby data problems in the data base can be diagnosed systematically.

17. The computer program product of claim 16, wherein the predetermined format is a table format.

18. The computer program product of claim 16, wherein the preparing instructions are performed using WITH and OUTER JOIN commands of the SQL.

19. The computer program product of claim 16, wherein one of the set of tests involves performing a test on a particular record stored in a table of the database, said record being identifiable by one or a combination of key values.

15 20. The computer program product of claim 16, wherein the preparing instructions include computer executable instructions for:

displaying a set of predetermined queries to a user;

receiving the user's response to each of the predetermined queries; and

preparing the test program based on the user's response.